

APPENDIX D-20  
HAZARDS TECHNICAL MEMO SUPPLEMENTAL ANALYSIS  
OTAY RANCH RESORT VILLAGE 13 – ALTERNATIVE H

SEPTEMBER 18, 2018

PREPARED FOR:  
COUNTY OF SAN DIEGO  
PLANNING & DEVELOPMENT SERVICES  
5510 OVERLAND AVENUE  
SAN DIEGO, CA 92123

PREPARED BY:  
MEAD & HUNT  
KEN BRODY  
1360 19<sup>TH</sup> HOLD DRIVE, SUITE 200  
WINDSOR, CA 95492



# Technical Memorandum



Prepared By: *Ken Brody, Senior Project Manager*

Date: *September 18, 2018*

Subject: *Otay Ranch Resort Village: Safety Zone Boundaries for John Nichol's Field—  
Updated Analysis*

## 1.0 Introduction

The Otay Ranch Resort Village project is proposed to consist of a combination of residential, mixed-use, recreational, resort, public service, and open space uses within the County of San Diego's land use jurisdiction. Portions of the project site are situated within an area where they could be affected by safety-related concerns associated with the nearby John Nichol's Field, a restricted, private-use airport.

In April 2013, at the request of the project developer, Mead & Hunt prepared an analysis identifying the locations where various degrees of safety concerns were apparent. The results of that analysis were incorporated into the environmental impact report for the proposed project.

Since that time, an alternative known as Alternative H has been created which modifies some aspects of the proposed development. The Otay Ranch Resort Village project (both the original proposal and Alternative H) is consistent with the Otay Ranch General Development Plan/Subregional Plan, which was adopted by the County of San Diego in 1993 to guide development of the Otay Ranch community.<sup>a</sup>

This Technical Memorandum updates the previous Mead & Hunt analysis, focusing on two purposes: to update information regarding the airport configuration and operations; and to update the original map on which recommended safety zones were portrayed as an overlay to the proposed development pattern.

## 2.0 John Nichol's Field Physical and Operational Characteristics Update

On April 24, 2018, Mead & Hunt contacted Alan Fink, owner and operator of John Nichol's Field to ask whether any significant changes had occurred to the airport's physical or operational characteristics since the 2013 Mead & Hunt Memorandum was prepared. The reply was that nothing had changed significantly. Nonetheless, we e-mailed to him the section of our 2013 Memorandum in which the physical and operational characteristics were described. A response was received on April 30, 2018, listing three minor updates and corrections to our original text. These changes, indicated below in italics, are as follows:

- There currently is *only one* Cessna Grand Caravan jump plane based at the airport rather than two as originally reported.
- The runway width is officially *30 feet*, not 50 feet.
- After departing to the west and making a 180-degree left turn, as is the standard practice, jump planes fly south of the airport *parallel to the runway and then continue to east of the airport* before making another 180-degree turn at altitude to release jumpers over the airport.

These refinements to the description of the airport's physical and operational characteristics do not alter our 2013 recommendations as to the safety zone geometry for the airport.

---

<sup>a</sup> Otay Ranch Preserve and Resort DSEIR (March 2015). Section 3.3.1.2, Land Use and Planning / Existing Conditions / Regulatory Setting.

### 3.0 Safety Zones Map

Figure 2 of our 2013 Memorandum depicted proposed safety zones, adjusted from generic zones pictured in the 2011 Caltrans Division of Aeronautics *Airport Land Use Planning Handbook* to reflect the flight routes utilized at John Nichol's Field. This map also showed the development pattern of the Otay Village Resort as then proposed. An update to this map showing the Alternative H development pattern is included here as Figure 1. No changes have been made to the safety zones.

### 4.0 Safety Compatibility Review

Safety compatibility guidance provided in the Caltrans *Handbook* indicates that residential and nonresidential development restrictions should be applied to new development within these safety zones. Under both the previously evaluated development plan and Alternative H, some development is proposed for portions of several of these safety zones.

With regard to residential development, Alternative H significantly reduces the number of affected parcels from 55 to just 7 within Safety Zones 1 through 5 (*Handbook* criteria do not limit residential densities in Zone 6). All except two small areas of the remaining parcels fall within or partially within Safety Zone 4, the least critical of these five zones. No development is proposed to occur on the pieces of the resort parcel that lie within Zones 2 and 3. Previously, 16 residential parcels were impacted by Zones 2 and 3. Nevertheless, *Handbook* guidance for Safety Zone 4 states that, in areas that are currently rural as is the case here, residential development should be limited to what current zoning allows.

The project's proposed resort development also would be affected by Safety Zone criteria. As contemplated in Alternative H, the resort site would encompass 16.6 gross acres, mostly within Safety Zone 4 with some usable acreage also within Zone 6. Also, small areas, not contemplated for development, are within Safety Zones 2 and 3. Plans for the resort are very preliminary at this time. However, it is contemplated that the use would include up to 200 hotel rooms and up to 20,000 square feet of ancillary commercial uses, possibly including a conference center. The developer estimates that up to 300 guests and 82 employees, a total of 382 people, would occupy the site under typical use, but this number could be somewhat greater during events.<sup>b</sup>

Caltrans *Handbook* guidance measures the compatibility of nonresidential uses primarily on the basis of usage intensity, the number of people per acre. Criteria are provided both for the average number of people on an entire development site and the number concentrated within the most intensively used single acre. In both cases, the number of people assumed in the calculation is based on normal busiest period usage. This number is typically lower than the absolute maximum occupancy that building and fire codes consider.

For Safety Zone 4, the *Handbook* criteria for development within rural areas are maximum intensities of 70 to 100 people averaged over the gross area of the site and 210 to 300 for any single acre. For Safety Zone 6, the corresponding numbers are 150 to 200 people per average acre and 600 to 800 people per single acre. With no more than 382 people assumed to occupy the 16.6-acre site, the resulting 23.0 people per acre easily complies with the average-acre criteria for both zones. Although the resort building layout is not currently known, occupants would most certainly be spread over several acres of the site while the hotel rooms are in use. Compliance with the single-acre criteria thus should not be an issue at these times. Less certain is the maximum number of people that would occupy a conference room or other ancillary uses when events are occurring. While the Zone 6 limits of 600 to 800 people in a single acre

---

<sup>b</sup> E-mail and telephone conversation with Stephen Haase, Baldwin & Sons – May 15, 2018.

would not be a constraint for the development, the Zone 4 limits of 210 to 300 could be. To remain consistent with the *Handbook* guidelines, these facilities should be designed to hold no more than 210 to 300 people or, better, be located within the Zone 6 portion of the site.

Also, should any development be planned for the Safety Zones 2 and 3 edge of the resort site, to comply with *Handbook* criteria its intensities would need to be limited. Specifically, in Zone 2 the limits are 10 to 40 people per average acre, 50 to 80 people per single acre, and no multi-story uses. Zone 3 limits are 50 to 70 people per average acre, 150 to 210 people per single acre, and buildings with no more than three aboveground habitable floors.

Lastly, upon submittal of a more detailed plan for the resort site, additional review will be required to determine appropriate accessory uses, additional requirements, and the level of restrictions. *Handbook* Safety Zone 4 criteria, for example, say to prohibit “group recreational uses” and “restrict assemblages of people.”

## 5.0 Open Lands Guidelines

Another safety-related guideline contained in the *Handbook* is to provide open land areas near runways. The concept behind open lands is to provide spaces where the pilot of an aircraft under distress (e.g., an engine failure), but still under directional control can make a survivable emergency landing. The *Handbook* states that:

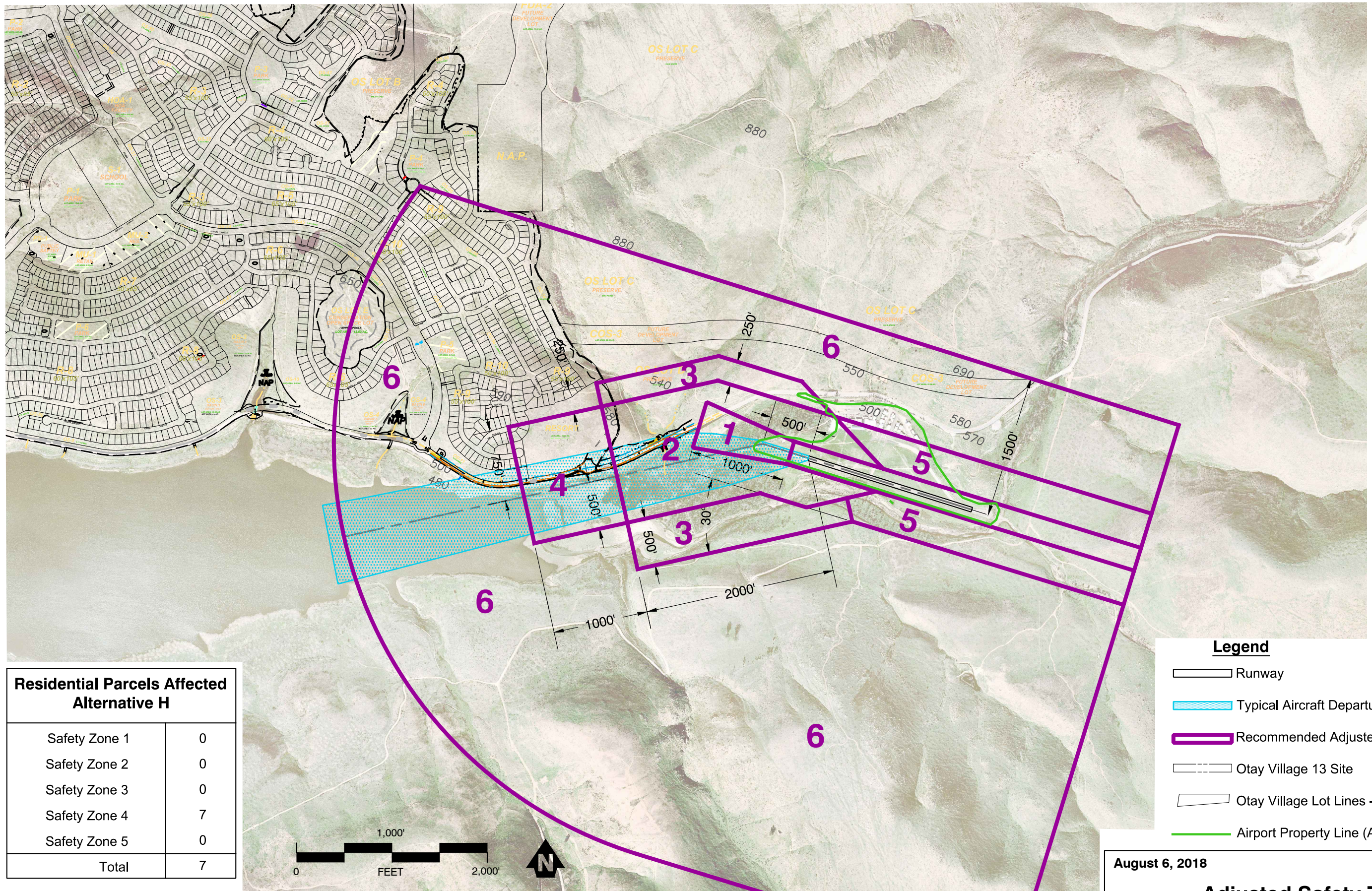
“As a general guideline, open land sites should be at least 300 feet long by 75 feet wide (about 0.5 acre or the size of a football field) to be considered useful. This is a minimum size and presumes that tall objects do not exist along the approach to the site, thus precluding an aircraft from reaching it. Open land sites should be relatively level and free of objects such as structures, overhead lines, and large trees and poles that can send the plane out of control at the last moment.”  
(p. 4-31)

As for the amount of usable open land that should be preserved, *Handbook* guidelines indicate the following: 25% to 30% in Safety Zone 2 and 15% to 20% in Safety Zones 3 and 4.

John Nichol’s Field is situated in a narrow valley with hilly, undulated terrain on both sides. However, to the west of the runway end are fairly level, lightly wooded, areas along the edges of Lower Otay Lake that appear usable for emergency landing purposes. Figure 2 of this Memo depicts the locations within Safety Zones 2, 3, and 4 and notes the percentage of lands judged to qualify as open in each safety zone. The percentages surpass the *Handbook* recommendations. Almost none of these areas are on the Otay Ranch Village Resort property and none would be affected by the proposed development project, thus the percentages listed in the accompanying Figure 2 would not change as a result of the project.



C:\Users\670me\appdata\local\temp\AcPublish\22740\Otay Village Compast Map-2018 UPDATE.dwg Aug 06, 2018 - 11:36am



Residential Parcels Affected Alternative H	
Safety Zone 1	0
Safety Zone 2	0
Safety Zone 3	0
Safety Zone 4	7
Safety Zone 5	0
Total	7

- Legend**
- Runway
  - Typical Aircraft Departure Route
  - Recommended Adjusted Safety Zones
  - Otay Village 13 Site
  - Otay Village Lot Lines - Alternative H
  - Airport Property Line (Approximate)

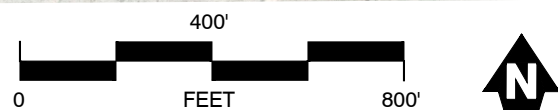
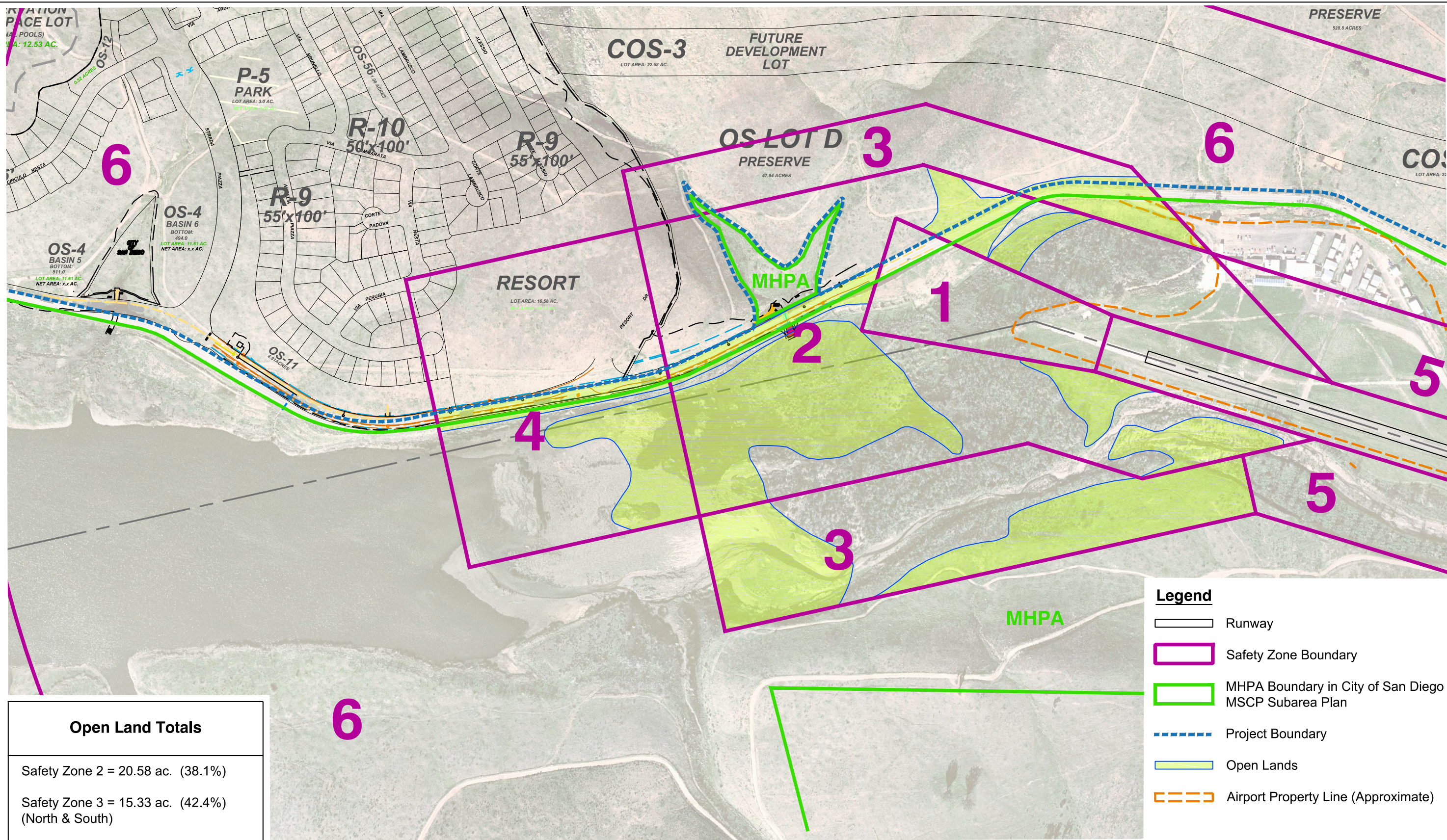
August 6, 2018 Figure 1

**Adjusted Safety Zones with  
Tract Map Overlay**

John Nichol's Field



C:\Users\670me\appdata\local\temp\AcPublish\22740\Clay Village Open Lands Map-2018 UPDATE.dwg Aug 06, 2018 - 11:34am



August 6, 2018

Figure 2

**Open Lands within  
Safety Zones**  
John Nichol's Field